

PRAIRIE GROUSE LEK SURVEYS

The Project area occurs within the occupied range of the greater prairie-chicken (*Tympanuchus cupido*) and sharp-tailed grouse (*T. phasianellus*; combined as “prairie grouse”). Greater prairie-chickens are listed as a species of greatest conservation need in South Dakota, but both species are considered upland game birds and are hunted in South Dakota (SDGFP 2014). WEST conducted surveys to document prairie grouse leks during the breeding season within the Project area. The objective of the prairie grouse lek surveys was to identify potential leks and determine status of each to help inform Project siting decisions. These surveys were conducted in 2016, 2018, 2019, and 2020 and followed Project changes as described above in “Avian Use Surveys” for their respective years (Figure 3).

Surveys were conducted three times from late March to the end of the first week of May each year and included their respective Project areas and 1.6-km (1.0-mi) buffer. Surveys began approximately 30 min prior to sunrise until 90–120 min after sunrise. To the extent possible, all surveys were conducted on relatively calm mornings (winds less than 24–32 km [15–20 mi] per hr) and on days with no precipitation. Surveys were conducted to document the presence and the number of male and female birds attending leks. Because both sharp-tailed grouse and greater prairie-chickens are found within the area, identification of species during the survey was recorded, when possible. Information collected during all surveys included date, time, temperature, cloud cover, precipitation, and observer(s).

The SDGFP defines a lek as “a traditional display area where two or more male sage-grouse have attended in two or more of the previous five years” (Connelly et al. 2003). “Active leks” are locations where two or more birds have been observed or heard in courtship behavior during more than one survey period. “Potential leks” are locations where birds have been observed or heard engaging in courtship behavior during only one survey period, where birds were observed in more than one survey period but not in courtship behavior, or where number of birds could not be confirmed (e.g., heard at least one bird). If no birds were seen or heard in any of the three surveys, the lek was classified as inactive for the season. Results include a cumulative summary of all survey efforts across years as it relates to the current Project area and 1-mi buffer (Figure 8).

Aerial Surveys

Aerial surveys were conducted in 2016 and 2018 with a Cessna 172. Surveys included north/south transects across the Project area and 1-mi buffer spaced approximately 0.40 km (0.25 mi) apart at an altitude of approximately 30–45 m (100–150 ft) above ground level. An onboard GPS unit was used to keep the plane on transect, document lek locations, and record daily flight paths. Biologists recorded the number of birds on the lek and whether occupied by greater prairie-chicken or sharp-tailed grouse. The following characteristics were used to distinguish between these species from the air: a square-tail shape and dark, blocky body for greater prairie-chickens versus a pointed-tail shape with white under tail coverts and lighter body color for sharp-tailed grouse.

Ground Surveys

Ground visits were conducted in 2019 and 2020 by traveling publically accessible roads (or roads where permission was previously obtained) throughout the Project area and 1-mi buffer. During ground visits, the following information was recorded and included lek ID, location, species, type of detection (auditory or visual), number of males (if possible), and number of females (if possible). If a new lek was identified during this effort it was documented with the same information and identified using a new unique lek ID.

Twenty prairie grouse leks were identified during a combination of aerial surveys and ground lek visits during the 2016, 2018, 2019, and 2020 breeding season within the Project area and 1-mi buffer (Figure 8). Four lek locations were active in 2016, seven in 2018, three in 2019, and eight in 2020 (Table 6). Of these active and potential leks, one was a sharp-tailed grouse lek and nineteen were greater prairie-chicken leks (Table 6).

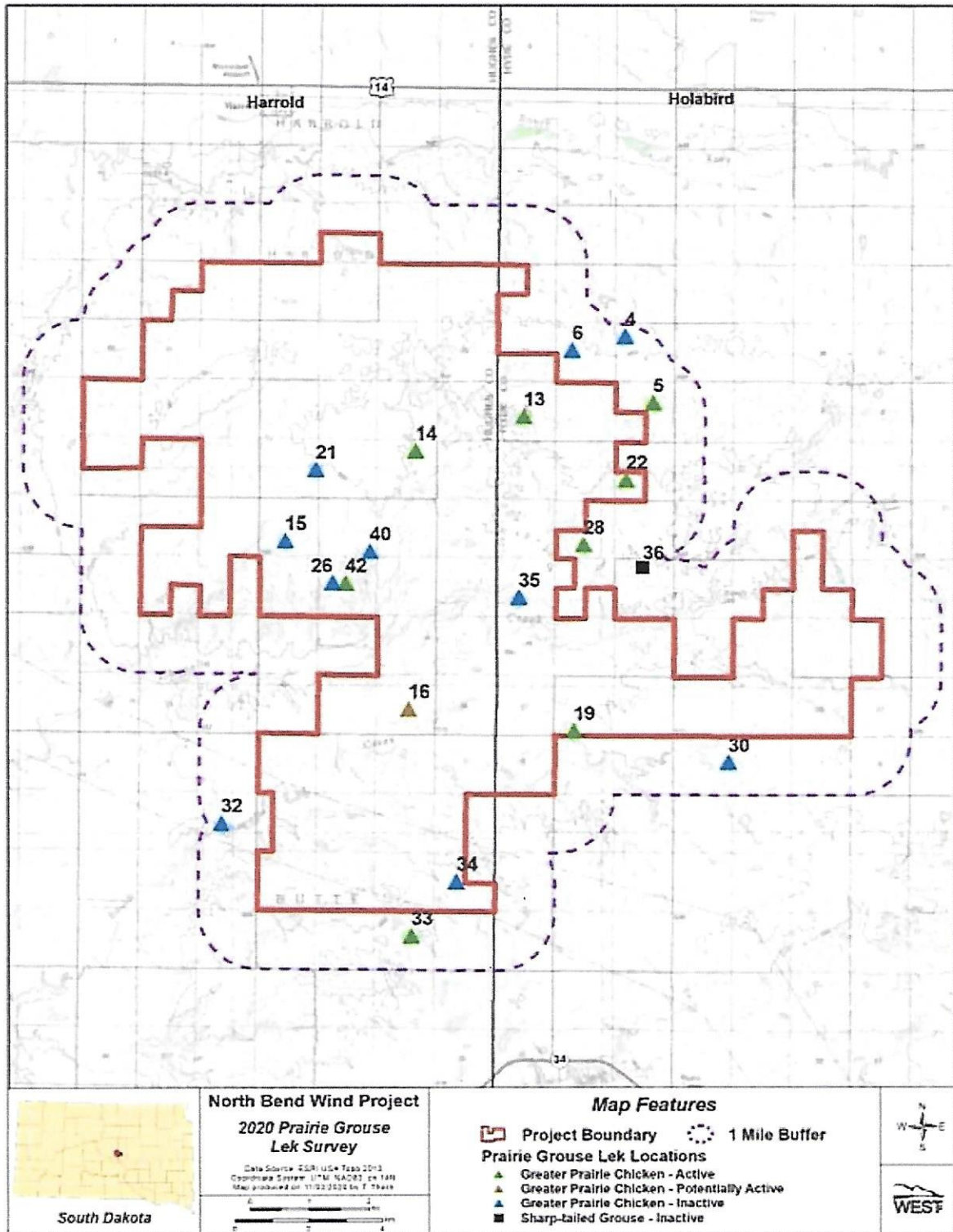


Figure 8. Location and 2020 status of potential prairie grouse leks identified during surveys within the North Bend Wind Project and 1.6-kilometer (1.0-mile) buffer from the 2016, 2018, 2019, and 2020 breeding seasons, Hughes and Hyde counties, South Dakota.